

Update a File Through a Python Algorithm

Project Description

This assignment utilizes Python to create an algorithm that compares a restricted IP address list against an allowed IP list. It identifies those that no longer have authorization for access and removes them from the allowed list.

Open the File That Contains the Allow List

```
import_file = "allow_list.txt"

# Assign `remove_list` to a list of IP addresses that are no longer allowed to access restricted information.
remove_list = ["192.168.97.225", "192.168.158.170", "192.168.201.40", "192.168.58.57"]

# Build `with` statement to read in the initial contents of the file
with open(import_file, "r") as file:

    # Use `.read()` to read the imported file and store it in a variable named `ip_addresses`
    ip_addresses = file.read()
```

Read the File Contents

```
# Use `.read()` to read the imported file and store it in a variable named `ip_addresses`
ip_addresses = file.read()
```

Convert the String Into a List

```
# Use `.split()` to convert `ip_addresses` from a string to a list
ip_addresses = ip_addresses.split()
```

Iterate Through the Remove List

```
# Build iterative statement
# Name loop variable `element`
# Loop through `ip_addresses`

for element in ip_addresses:
```

Remove IP Addresses That Are On the Remove List

```
for element in ip_addresses:

    # Build conditional statement
    # If current element is in `remove_list`,

    if element in remove_list:

        # then current element should be removed from `ip_addresses`

        ip_addresses.remove(element)
```

Update the File With the Revised List of IP Addresses

```
# Convert `ip_addresses` back to a string so that it can be written into the text file
ip_addresses = " ".join(ip_addresses)

# Build `with` statement to rewrite the original file

with open(import_file, "w") as file:

    # Rewrite the file, replacing its contents with `ip_addresses`

    file.write(ip_addresses)
```

Summary

An algorithm was created to screen a list of unauthorized IP addresses against an authorized list. It opens a file, changes it into a string, stores it as a list, and evaluates them against each other. If there's a match, that IP address is removed from the authorized list and the file is overridden with the updated data.